REMARKS

Applicant, by the amendments presented above, has made a concerted effort to present claims which more clearly define over the prior art of record, and thus to place this case in condition for allowance. Currently, claims 1-21 are pending. Claims 19 and 20 have been allowed.

Claim Rejections - 35 U.S.C. §103

Claims 1-5, 11-14, 16 17 and 21 were rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 5,022,070 to Forson et al. in view of United States Patent No. 6,278,688 to Suutari et al.

Claim 1 as amended recites:

> An interface for transmitting data messages between a telephone switching system and an adjunct processor . . . said interface comprising: . . .
> a software component including at least two **active** data transmission links between the telephone switching system and the adjunct processor.

Claim 11 recites:

> An interfacing method for processing data messages between a telephone switching system and an adjunct processor . . .comprising the steps of: . . . transmitting the data messages between the telephone switching system and the adjunct processor using at least two **active** transmission links.

Claim 21 recites:

> A method of improving the performance and reliability of translating data messages between data message protocols and transmitting data messages between a telephone switching system and an adjunct processor comprising the steps of :. . .
> transmitting the data messages from the telephone switching system and the adjunct processor using multiple **active** links.

Forson discloses a system including a telephone switch 10 utilizing API protocol, a voice messaging system (or adjunct processor) 11 utilizing SMSI protocol, and a protocol convertor 15 which converts data messages received from the switch 10 in the API protocol to the SMSI protocol for use by the adjunct processor 11. The method disclosed in Forson relates to enhancing or extending the SMSI protocol by adding messages (such as leave word calling and maintenance messages) to the communication between the protocol convertor (or interface) 15 and the adjunct processor 11. The improved SMSI protocol messages provide additional functionality between the translator 15 and the adjunct processor 11.

As shown in Figure 1 of Forson, the adjunct processor 11 is connected to the switch 10 through a single data link 12. A first portion 31 of the data link 12 connects the switch 10 to the protocol convertor 15 and a second portion 32 of the data link 12 connects the protocol convertor to the adjunct processor 11. Voice links 13 are also provided between the switch 10 and the adjunct processor 11.

Suutari et al discloses an interface between a local exchange and an access node having two links.. As described at column 3, lines 30-34, ". . . a signalling channel has been configured to use the topmost link in the V5 interface. Further a back up channel to which one of the signalling channels can be switched over has been configured to be carried by the bottom link. . . a switch-over of the signalling channel to the backup channel is carried out due to malfunction of the top link, in other words the signalling channel originally allocated to the top link is transferred to the bottom link in place of the backup channel". Thus, as described, only one link, either the top link or the bottom link, is active at a time.

1. Claims 1, 11, and 21

Two Active Data Transmission Links

The Examiner finds that Forson teaches a software component including one data transmission link between the telephone switching system and the adjunct processor but fails to teach a software component including at least two data transmission links as required by claim 1. The Examiner further finds that Suutari teaches a software component including at least two signalling channels. The Examiner then concludes that it would be obvious to modify Forson to modify Forson to allow a software component including at least two data transmission links between the telephone switching system and the adjunct processor as taught by Suutari to provide redundancy of the channel.

Neither Forson nor Suutari disclose or suggest the modification proposed by the Examiner. Futhermore, if Forson were modified to include a back up channel as taught by Suutari, the invention of claims 1, 11 and 21 would not be provided. The invention of Suutari merely provides a "back up" channel and does not provide a second data transmission link as provided by Applicant's invention. This difference is significant. As described at column 3, lines 1-38 of Suutari, in the event of malfunction of the signalling channel, the signalling channel "switches over" to the back up channel. Thus, the back up channel only functions in the event the first link malfunctions. As recognized by the Examiner, Suutari discloses **redundancy**. In contrast, Applicant's invention provides at least two **active** links which simultaneously provide connection between the switch and the translator and between the translator and the adjunct processor. Each of the links are equally viable for communication. During operation of Applicant's invention, messages are sent across each of the active links. In the event a links goes out of service, data messages are no longer sent on the out of service link. Rather, the data messages are sent along a "**remaining** number of links". By providing

multiple active links Applicant is able to leverage the links to improve the throughput of the system. When one link of Applicant's invention fails messages will be sent along the remaining links. However, when the links are in good condition, messages can be carried along all of the active links. No such provision of multiple active links is disclosed or suggested by Suutari.

Again Applicant draws an analogy between its invention and a highway system. Applicant's invention can be compared to a multiple lane highway. If, for example, two data transmission links are used, data flows over two lanes of the highway. In the event an accident occurs which would block one lane of the highway, the data can simply move to the unobstructed lane and may not even need to slow down if the flow of traffic was not too heavy, prior to the accident. In comparison with Suutari's invention, the data of Suutari moves along a single lane highway. In the event an accident occurs and the lane becomes blocked, a new lane needs to be created so the traffic can flow over that new lane. The redundancy taught by Suutari, therefore is not equivalent to the multiple active links of Applicant's invention. Thus, it would not be obvious to modify the invention of Forson in accordance with the teaching of Suutari to arrive at Applicant's invention. Because claims 1, 11 and 21 are neither disclosed nor rendered obvious by Forson or Suutari, Applicant respectfully requests reconsideration and allowance of claims 1, 11 and 21.

Claims 2 and 12

Claim 2 depends from claim 1 and claim 12 depends from claim 11. With respect to claims 2 and 12, the Examiner first finds that Forson "teaches a software component including one data transmission link . .." (See Office Action, page 3, lines 8-10). Next, the Examiner finds that Forson "teaches that the software alternates the transmission of data

messages among the links", (See Office Action, page 3, lines 20-21). Because the Examiner, finds that Forson teaches only one data transmission link, the Examiner's finding that Forson alternates transmission among multiple links is incorrect. Applicant has studied column 3, lines 41-68, column 4, lines 1-9, and 15-23 cited by the Examiner, and has found no discussion of alternating the transmission of data among multiple links. Because claims 2 and 12 are not anticipated or rendered obvious by Forson, Applicant respectfully requests reconsideration and allowance of claims 2 and 12.

Claims 3, 4 and 13, 17

Claims 3-4 depend from claim 1 and claims 13 and 17 depend from claim 11. Applicant asserts that because claims 1 and 11 are allowable , claims 3-4, 13 and 17 are also allowable. Applicant respectfully requests reconsideration and allowance of claims 3, 4, 13 and 17.

Claims 5 and 14

Claim 5 depends from claim 1 and claim 14 depends from claim 11. Applicant asserts that because claims 1 and 11 are allowable, claims 5 and 14 are also allowable. In addition, claims 5 and 14 require that the software component of the interface includes two device driver algorithms to filter erroneous frames from the data messages. In finding that Forson teaches a software component which includes two device driver algorithms to filter erroneous frames from the data messages, the Examiner cites col. 2, lines 63-68; col 4, lines 1-9; col. 7, lines 22-35; col. 8 lines 9-16, 45-61; and col. 9 lines 3-8, 32-48. Applicant asserts that none of the portions cited by the Examiner discloses two device driver algorithms for filtering erroneous frames from the data messages.

Col. 2 lines 63-68 of Forson refer to Figures 13 and 14. Figures 13 and 14 does not show an interface including a software component having two device driver algorithms. Rather, Figure 13 illustrates the use of messages received by the convertor 15 and how the system of Forson deals with a lost message. Figure 14 illustrates the form of a maintenance message. Col. 4, lines 9-14 describes a processing element 47 of the translator 15 and a separate processing element 57 of the adjunct processor 11. Col. 7, lines 22-35; col. 8, lines 9-16, 45-61; and col. 9 lines 32-48 each discus an error log 60 which is part of the adjunct processor 11, not the translator 15. Col. 9, lines 3-8 do not relate to the filter of erroneous frames from the data messages but rather discuss Forson's attempt to clear messages from a buffer. None of the portions of Forson cited by the Examiner disclose a software component of the interface which includes two device driver algorithms.

Because neither Forson nor Suutari disclose or suggest an interface including a software component which includes two device driver algorithms to filter erroneous frames from the data messages, Applicant respectfully requests reconsideration and allowance of claims 5 and 14.

Claims 6 and 15

Claims 6 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Forson in view of Suutari and further in view of United States Patent No. 5,255,314 to Lin. Claims 6 and 15 each require that the interface includes a software component which includes at least two protocol algorithms to validate data messages.

Lin discloses a system and method for providing two-way content communication between wireless mobile communication devices and a remote computer network.

Claim 6 depends from claim 1 and claim 15 depends from claim 11. Applicant asserts that because claims 1 and 11 are allowable, claims 6 and 15 are also allowable. In addition, Applicant again asserts that Lin does not disclose the use of multiple protocol stack algorithms to validate the data messages. Although the Examiner again cites paragraph 0026 of the Lin publication, Applicant finds no reference to multiple protocol algorithms for validation of messages. In addition, no disclosure or suggestion is provided by Lin, Suutari or Forson to modify the invention of Lin for use in connection with an interface for translating the data message protocol. Furthermore, neither Lin, Suutari, nor Forson disclose or suggest modifying the invention of Lin for use in a telephone switching system.

Claims 7-10 and 18

Claims 7-10 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Forson in view of Suutari and further in view of United States Patent Publication No. 2002/0051425 to Larsson.

Claim 7 requires that the software component of the interface includes a "splitting task which receives messages from the at least two protocol stacks. Claim 8 requires that the software component of the interface includes a splitting task algorithim.

Larsson discloses a method for transmitting data messages in a multi-hop environment. Larsson discloses the use of a first station to broadcast a message to several other stations. After one or more of the stations replies to the first station, one of the replying stations is selected and the first station transmits a command message to the selected station to assume responsibility for forwarding the data message.

Claim 7 depends from claim 6. Because claim 6 is allowable, Applicant asserts that claim 7 is also allowable. In addition, although the Examiner finds that the "splitting means"

described in paragraph 64 of page 6 of Larsson is equivalent to the splitting task algorithm of Applicant's invention, Applicant respectfully disagrees. Applicant finds no disclosure or suggestion in Larsson that the splitting means receives messages from at least two protocol stack algorithms as required by Claim 7.

Furthermore, Applicant asserts that the invention of Larsson relates to a stream of data packets and operates on a more macro level than Applicant's invention. The specific mention of splitting in Larson is in reference to splitting of the data stream into packets which may proceed over different paths (i.e. over different relaying nodes in the network). Later these data packets arrive at their final destination and are placed into a proper order. In contrast, Applicant's invention deals with sending data messages between the switch and the translator which are smaller in size than the data packets of Larsson. Applicant's splitting and combining tasks involve placement of messages **within** the packets rather than splitting of the data on the packet level as discussed by Larsson. Thus, the splitting means described by Larsson is not equivalent to the splitting task algorithm of claims 7 and 8.

Finally, neither Forson, Suutari nor Larsson, disclose or suggest modifying the invention of Larsson for use in connection with a protocol translator interface. As claim 7 is neither anticipated nor rendered obvious by Forson and Suutari in view of Larsson, Applicant respectfully requests reconsideration and allowance claim 7.

Claims 9 and 18 require that the software component of the interface includes a combining task algorithm to combine data messages into sets. Claim 9 depends from claim 1 and claim 18 depends from claim 11. Because claims 1 and 11 are allowable, claims 9 and 18 are also allowable. In addition, Applicant reasserts that arguments set forth above with respect to claims 7 and 8. Because claims 9 and 18 are not obvious based upon Forson and

Suutari in view of Larsson, Applicant respectfully requests reconsideration and allowance of claims 9 and 18.

Claim 10 depends from claim 1 and further requires that the software component of the interface includes a combining task algorithm which alternates transmission of data messages on at least two links. The Examiner finds that Larsson teaches that the software includes a combining task algorithm which alternates transmission of data messages on at least two links into sets. Larsson discloses the broadcasting of packets. Each packet is transmitted multiple times to multiple intermediate nodes in the network. In contrast, Applicant's invention transmits the data messages along **one** of the multiple links. Furthermore, claim 10 requires the alternate transmission of data messages. Larsson does not disclose or suggests the alternating transmission of data messages. Rather Larsson simply discloses a broadcast of the data messages. As claim 10 is not anticipated or rendered obvious by Forson and Suutari in view of Larsson, Applicant respectfully requests reconsideration and allowance of claim 10.

Allowable Subject Matter

Claims 19 and 20 have been allowed.

In view of the above Amendments and Remarks, Applicant respectfully submits that the claims of the application are allowable over the rejections of the Examiner. Should the Examiner have any questions regarding this Amendment, the Examiner is invited to contact one of the undersigned attorneys at (312) 704-1890.

Respectfully submitted,

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